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THE DENTAL PRACTITIONER

monthly journal for the Practitioner and his Staff

VOL. I, NO. 8 APRIL, 1951

Incorporating the Official Supplement of
The Dental Laboratories Section of the Surgical Instrument Manufacturers' Association

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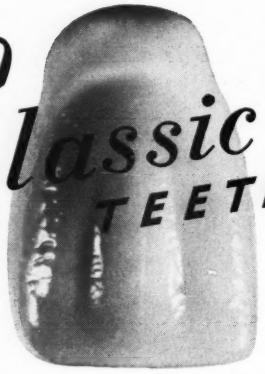

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THE DENTAL PRACTITIONER

A Monthly Journal for the Practitioner and his Staff

(Incorporating the Proceedings of the British Society of Periodontology)

Editor : JOHN E. SEEAR, L.D.S. R.C.S.

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VOL. I, No. 8 — APRIL, 1951

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THE
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A Monthly Journal for the Practitioner and his Staff

Vol. I, No. 8 April, 1951

DITORIAL

NATIONAL AND INTERNATIONAL

THE National Dental Hospital, London, are the main contributors to both this and the May issues, and we thank them for their splendid co-operation. We feel sure that they and you, our readers, will be interested to know that this monthly journal has an ever-widening circulation overseas as well as at home, and in addition to having a large number of subscribers in the Scandinavian countries, it is being read increasingly in America, Canada, Australia, and New Zealand. We shall strive to go on becoming more and more international each month, and we hope in the future to bring you articles from our colleagues abroad as well as giving you those regular monthly features which form an essential part of the journal and which we believe prove of general interest and help.

OUR USUAL PLEA !

Yes, here it is again! The Editor and his Associates want to hear from you all, in all parts of the globe, to know what you wish to read in the future in the DENTAL PRACTITIONER, what you think about it at the moment, how you feel we can improve it, and last, but not by any means least, to receive from you illustrated hints, interesting case reports, X rays, etc., or any query you would like published so that other readers may join in and discuss it. We offer you the space for your own personal use. Please use it!

WELCOME

As we told you in the March Editorial, this number incorporates the Official Supplement of the Dental Laboratories Section of the Surgical Instruments Manufacturers' Association, and we now welcome the members officially, knowing full well that we all shall gain from reading the pages of their Supplement. They have much to offer us in the future in the way of articles, hints, etc., and we are sure that in welcoming them we can also say that we hope we may long be associated, thereby increasing the co-operation between surgeon and technician and also enhancing the value of this journal to all who are interested in dentistry in its widest conception.

A SHORT SURVEY OF THE PRINCIPLES INVOLVED IN THE ESTABLISHMENT OF BALANCED OCCLUSION

By **RONALD J. G. GREWCOCK**, L.D.S. R.C.S. Eng.

INTRODUCTION

In a series of articles and lectures Karolyi (1901–7) drew attention to the consequences following upon overstrain to the supporting structures of the teeth. His words, however, found little response at that time and it has been left to others since then to investigate further the problem of articulation.

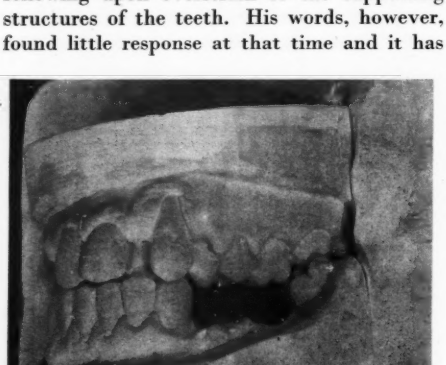


Fig. 1.—Resorption of the outer plate in $\overline{3}$ region, following overload in "locked bite".

During the period 1916–26, Stillman, McCall, and others pointed out that under unfavourable conditions, producing the so-called "traumatic occlusion", the strain on one individual tooth may exceed the margin of safety optimal for the tooth, in which case the supporting tissues are progressively destroyed. At that time, however, over-estimation of the importance of the strain factor was given, in the belief that this was the principal cause of pyorrhœa alveolaris.

To-day it is realized that something more than overstrain is required, and research is proceeding to determine the factor that specially predisposes certain individuals, certain families, and certain races to the disease.

It is, however, an indisputable fact that overloading an individual tooth, or teeth, may be a precipitating cause in stimulating a latent disease factor, and unless this overstrain is corrected, a relapse will follow local methods of treatment. It is the purpose of this paper to show the results of overloading, or, conversely, lack of physiological movement of teeth, on the paradontium. A brief survey is included on the methods used for the re-establishment of occlusal harmony.

DEFINITION

Many terms have been used to describe the state of functional occlusion, and in 1943 Miller defined *balanced occlusion* as "the natural closure and fitting together of the maxillary and mandibular teeth, their relationship when closed or during excursive movements of the mandible, whereby maximum masticating efficiency and periodontal preservation are obtained".

The ideal state of balanced occlusion of the natural dentition exists, then, when each tooth is in contact with its antagonists in such a way as to subject its supporting tissues to stresses which they are best suited to withstand. Simultaneous contact between antagonists during normal functional movements is, of course, always desirable.

Histological evidence has shown that bone is, biologically, a plastic tissue, sensitive to pressure and readily undergoing resorption when subjected to stress in excess of normal requirements.

Fig. 1 shows resorption of the outer plate of bone in the upper left canine region following excessive overload in a locked bite. This condition would lead to loosening and finally

to loss of tooth. Any tooth which acts as an impediment to the free gliding movement of the jaw will be repeatedly subjected to unilateral trauma. If this force exceeds the margin of safety of the supporting tissues of the tooth, and if the resistance of the supporting tissues is impaired by a predisposition to paradontal disease, the paradontium will undergo progressive destruction.

Fig. 2.—Premature contact between $\frac{7}{6}$ in habitual centric occlusion.

Fig. 3.—Left side of case shown in *Fig.* 2. Tip contact only between $\frac{45}{45}$.

Fig. 2 shows a case where occlusion is confined to $\frac{7}{6}$ in all excursions of the mandible, while *Fig.* 3 shows $\frac{45}{45}$ which on lateral movement were "rocked" by tip contact only. These four teeth were quite loose, whereas $\frac{7}{6}$, being multi-rooted teeth, with no cusp inclines, were firm and showed radiographically some evidence of osteosclerosis.

Decreased function, which can be observed in teeth which have lost their antagonists, leads to a diminution of supporting bone substance. Here, the spongy bone shows marked rarefaction, the bone trabeculæ are less numerous and very thin, and the periodontal membrane becomes narrower owing to loss of function of the teeth.

The *main factors* for consideration in the establishment of balanced occlusion can be summed up under the four headings: (1) True centric occlusion; (2) Free lateral gliding movements; (3) Equal distribution of stresses; (4) The retention or re-establishment of the physiological occlusal vertical dimension.

1. True Centric Occlusion.—In general, the term centric occlusion is rather loosely applied to a clenching of the teeth in what appears to be a normal closed-jaw relationship. Sometimes, however, owing to loss or an irregular position of certain teeth, the mandible, on closure, is compelled to assume an habitual forced position.

Fig. 4 shows how cusp interference between $\frac{7}{7}$ has driven the mandible forward to assume a position which has been called the *habitual centric occlusion* (*Fig.* 5) as opposed to the *true centric occlusion*, which is assumed on closure in the absence of cusp trauma.

True centric occlusion may be defined as "the centric position of the lower jaw in relation to the upper, in which the condyles are at rest in their most distal unstrained relationship, in each respective glenoid fossa, from which lateral movements can be made".

Teeth in true centric occlusion should, ideally, be subjected to axial stress only, with a force, the maximum intensity of which is controlled by muscle tension, reaching its

correct physiological degree of contraction at the normal occlusal vertical dimension.

2. Free Lateral Gliding Movements.—It has been shown that lateral stresses, to the point of overloading, can cause progressive destruction of the tooth supporting tissues, so that free lateral gliding movements should be

elevator and depressor muscles which act on the mandible, as well as a physiologically correct position of each condyle in the glenoid fossa.

Any artificial increase above the normal occlusal vertical dimension will result in depression of the elevated tooth or teeth, until

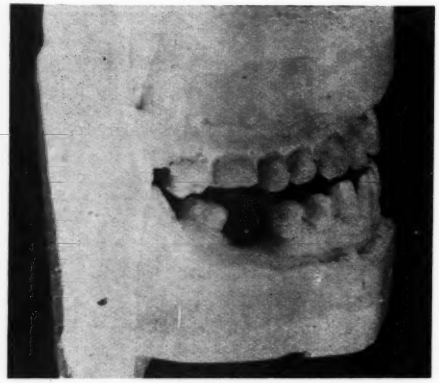


Fig. 4.

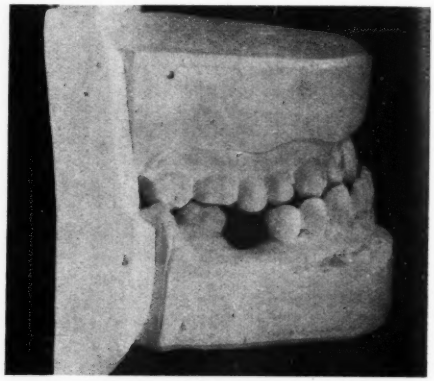


Fig. 5.

Figs. 4, 5.—Cusp interference between $\frac{7}{7}$ shown in *Fig.* 4, forces mandible to adopt forward position (*Fig.* 5).

established by selective grinding to eliminate cusp interference. Grinding is conducted carefully by following the rule, defined below, *to avoid any reduction in the occlusal vertical dimension.*

Cusp inclines can be prominent in youth when the alveolar support is strong, but should be reduced either naturally or artificially with increasing age. It may happen that with steep cusps a patient will bite only in centric occlusion, showing complete absence of conscious lateral movements, at the same time performing unguarded lateral movements at night (bruxism) under such strong stress as to injure the paradontal tissues.

3. Equal Distribution of Stresses.—An ideal state of occlusal equilibrium is sought to ensure that all teeth will be as uniformly stressed as possible during mastication.

4. The Normal Occlusal Vertical Dimension is the measurement, in a young adult with all teeth fully erupted in closed position, between the base of the nose and the symphysis menti. It includes a harmonious relationship between the normal dimension is again established. This has been seen to occur bilaterally and to affect bicuspids and molar teeth, when an overlay appliance was inserted, exceeding the normal vertical dimension. In most cases, following re-establishment, the teeth and supporting tissues return to normal, providing that the trauma is not of long duration.

To disturb or not to disturb the bite is a question with which we are often confronted. Certain conditions which render it advisable to change the bite, are: æsthetic considerations; pathological conditions such as periodontitis and its sequelæ; and functional requirements and disturbances in the temporomandibular joint resulting from bite abnormalities.

A simple rule for all cases is never to raise a bite unless it is found to be essential, after careful consideration has been given. In every case a check-up should be made, by standardized radiographs, to ensure the correct position of the condyle in the glenoid fossa—a technique outside the scope of this paper.

DIAGNOSIS

It cannot be too strongly emphasized that the successful outcome of treatment depends entirely on the accurate assessment of all factors involved, and to that end a careful and methodical analysis of the bite forms the basis of diagnosis.

Bite Analysis.—Accurate study models in stone plaster of both upper and lower jaws are essential, the models being first placed in occlusion to find out if any inequalities exist owing to air-blows in the impressions. Following face-bow registration, the upper model is mounted on an anatomical articulator of the Hanau or Dentatus pattern. The model is mounted in the Frankfort plane horizontal, in order that deviations from the supposed ideal can more easily be observed, and in addition such a standardized procedure renders possible a comparative study of different cases. The relationship of the lower model to the upper is ascertained by taking a wax bite in the patient's mouth with the mandible in the rest position. Great care should be exercised to ensure that no cusp contact is permitted through the wax, otherwise registration of the true centric position may not be established. Individual condylar path registrations, which may vary for either fossa, are obtained from a protrusive bite taken in soft wax.

The *principal conditions* which demand the establishment of occlusal harmony can be summarized as follow:—

a. Those cases in which there is no loss of teeth, and which show evidence of recurrent gingival and periodontal disease.

b. Those cases with some loss of teeth, showing tipping of some teeth and elongation of others, but with no loss of occlusal vertical dimension.

c. Those cases with loss of some posterior teeth and closure of the bite—a condition in which "locking" of teeth sometimes occurs with resultant periodontal injury.

d. Edentulous cases, with which we are not concerned in this paper.

A clear indication of closed bite is often given by the lingual inclination of the remaining posterior teeth. It seems a curious fact that the so-called natural deep-bite cases, where lateral movement is non-existent, show a marked resistance to periodontal disease.

TREATMENT

There are three principles involved in the establishment of balanced occlusion, but before treatment is attempted in the mouth, methodical planning in stages of the requisite adjustments must be undertaken on the models, which are articulated by the methods already explained. These principles may be classified accordingly: (1) Orthodontic treatment; (2) Selective grinding; (3) Prosthetic reconstruction: (*a*) Without changing the height of the bite; (*b*) With re-establishment of the occlusal vertical dimension where possible.

1. Orthodontic Treatment.—This is not necessarily restricted to children, but may be of value in the adult. Co-operation with the orthodontist is desirable.

2. Selective Grinding.—*First, the true centric occlusion* is ascertained by relieving the high spots on the stone model teeth by scraping the premature contacts in accordance with a *definite rule*—namely, reduce the cusp if this makes premature contact in all positions; otherwise deepen the fossa.

The contacts are shown by occluding the jaws in the centric position on thin articulating paper, and relieved until simultaneous contact is obtained between the arches from, at least, the canine backwards on each side. A note is kept, step by step, of the individual tooth cusps scraped.

Secondly, the protrusive bite is adjusted, remembering that enthusiasm for the establishment of the ideal must not outweigh the appreciation of the æsthetic.

In most cases it will be found that the ideal state of equal stress distribution is not attainable in the protrusive position owing to depth of overbite, etc., and a compromise must be accepted. However, it is often the case that the reduction in height of overlong central incisors will not only re-distribute their biting load, but will also materially help to improve appearance. At all events grinding in the

protrusive position should almost entirely be confined to the upper incisors, since, if reduction in height of the lowers is effected, contact in centric occlusion will be lost and upward growth of these teeth may follow.

Thirdly, right and left lateral movements are examined in turn, covering the whole arch with thin articulating paper. The lower jaw is moved to one side at a time. Excessive lateral stress on the bicuspids and molars is countered by a reduction in cusp inclination, but in order to avoid any lessening of the vertical dimension, care must be exercised to ensure that only those cusps unconnected with the retention of the height of the bite in centric occlusion are ground.

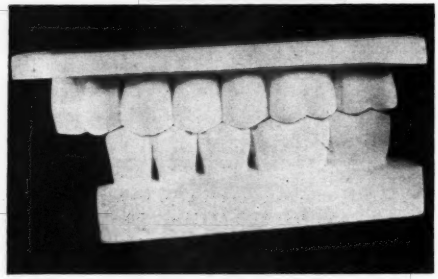


Fig. 6.—Models showing harmonized cusp inclines.

Assuming the existence of a normal side-to-side relationship between upper and lower posterior teeth, in which the height of the bite is maintained by the buccal cusps of the lower teeth and lingual cusps of the upper, it is obvious that any reduction of these particular cusps will produce a lessening in the vertical dimension. The reverse is true in a cross-bite.

Accordingly, when correcting interfering cusp inclines, or premature contacts in the lateral movement, carry out the following rule:—*Grind on the working side*: *B*uccal *u*pper, *l*ingual *l*ower; and, on the *balancing side*, the buccal cusp in the lower, which must not be reduced in height but merely faceted on its lingual plane. The above rule can easily be memorized by taking the first letter of cusps to be ground and representing the word "Bull". It is worthy of note that even on the working side the tips of the cusps are not always ground, but the adjustment is confined to a bevelling of their facets in order to harmonize gliding inclines (*Fig.* 6). In cross-bite the above rules are reversed.

When all movements have been analysed on the articular and adjustments made, then, and then only, should the same grinding be repeated in the mouth.

3. Prosthetic Reconstruction.—

a. Without Changing the Bite.—To prevent over-eruption and/or tipping and drifting of teeth, it is clear that early replacement of an extracted tooth is necessary. Whether or not agreement is reached on the advantages or disadvantages of bridge work over removable partial denture work, the aim involved in the reconstruction of the bite is the same—namely, the re-establishment of the complete

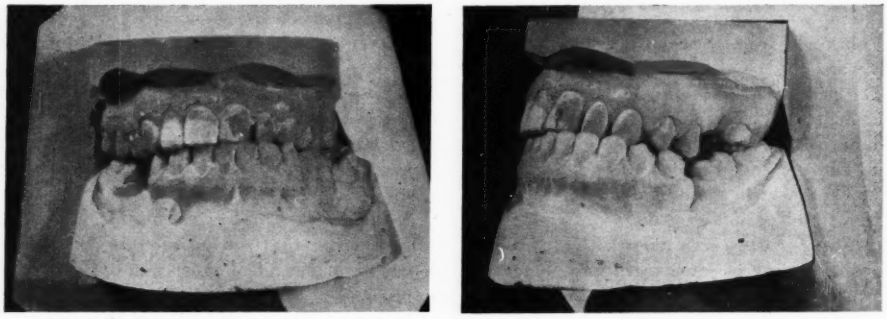
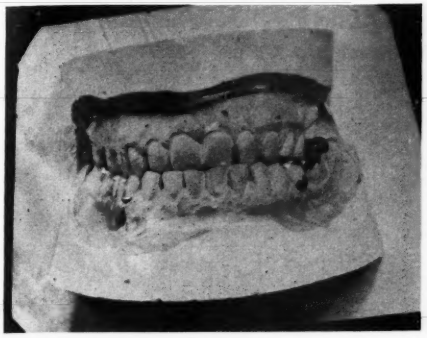


Fig. 7.—Left canine cusp interference resulting in lateral displacement of mandible.

arch with all teeth working in functional harmony with their antagonists. Such restoration implies not only the replacement of missing teeth but also the lengthening of any teeth not in occlusion by means of overlays, onlays, etc., in such a way that functional stimulation is given to the supporting tissues.



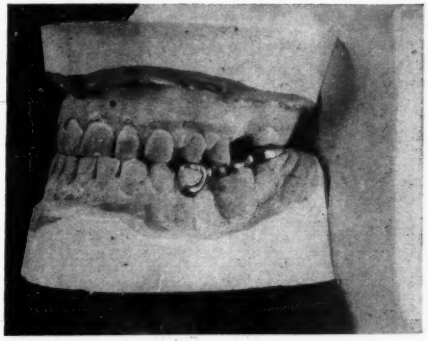


Fig. 8.—Treatment of the displacement shown in *Fig.* 7, by stabilizing the true centric occlusion with an overlay appliance, after preliminary grinding of natural teeth.

into contact those posterior teeth previously out of occlusion.

b. With Re-establishment of the Occlusal Vertical Dimension.—It can be said, as a rule, that loss of posterior teeth usually results in decrease of the occlusal vertical dimension and will often result in locking of the bite on closure (*see Fig.* 1). In the case of deep bite, lessening of the vertical dimension will be attended by additional symptoms. The lower anterior teeth strike the palatal gingivæ, while sometimes a reciprocal trauma is caused by the upper incisors on the labial gingivæ of the lower incisors.

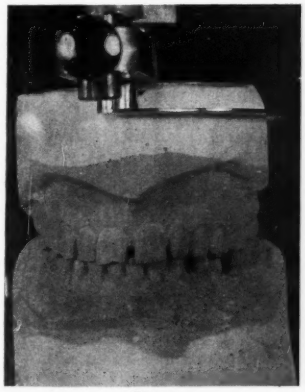


Fig. 9.

Fig. 10.

Fig. 11.

Figs. 9–11.—*Fig.* 9 shows splaying of upper incisors, caused by forward thrust of mandible, due to premature contact between $\frac{|4}{4}$ (*Fig.* 10). Habitual centric occlusion is shown in *Fig.* 11.

Figs. 7, 8, show a case where left canine cusp interference resulted in the lateral displacement of the mandible to the left side in an habitual centric occlusion. The teeth were ground into true centric occlusion and stabilized by means of an overlay appliance bringing

Splaying of the upper incisors is often seen as in *Fig.* 9, and it is interesting to notice that in this case, premature contact (*Fig.* 10) between $\frac{|4}{4}$ is causing a forward thrust of the mandible from its true centric into its habitual centric occlusion (*Fig.* 11).

Prognathic cases are similarly affected, but in reverse order to the deep-bite cases. Here the lower anterior teeth may spread and the symphysis menti move forward and upward (*Fig.* 12).

The restoration of the true vertical dimension re-established functional stimulation of the incisor supporting tissues and in addition resulted in an improved æsthetic result, in profile (*Fig.* 13).

Fig. 12.

Fig. 13.

Figs. 12, 13.—Before and after the occlusal vertical dimension had been restored in true centric occlusion.

SUMMARY

1. A definition of balanced occlusion is given, with a brief reference to histological conditions resulting from occlusal imbalance.

2. The main objects concerned with the establishment of occlusal harmony are described. It is stated that balanced occlusion is considered to include the functional equilibrium of the entire masticating mechanism.

3. Bite analysis forms the basis of diagnosis, and accordingly a description is given, emphasizing the importance of accurate assessment of all details prior to treatment in the mouth.

4. A classification of conditions in which balanced occlusion plays a vital part is stated.

5. Treatment is described, with particular reference to selective grinding. The main ideals of prosthetic reconstruction are explained and photographs are shown of cases treated.

I wish to acknowledge my indebtedness to Messrs. Hamish Thompson and W. Stewart Ross for reading the manuscript of this paper, and to Mr. Bligh, of the Photographic Department, University College Hospital, for the photographs.

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LUPUS ERYTHEMATOSUS AND DENTAL INFECTION

A CASE REPORT

By **D. DOWNTON**, L.D.S. R.C.S.

Demonstrator, National Dental Hospital

In August of this year a medical colleague presented himself with three erythematous patches on the face. These patches were circular in shape and varied in diameter from 1½ cm. to 3 cm. They were quite flat and not raised above the surrounding tissue, neither was there any sign of desquamation. A diagnosis of lupus erythematosus had been made by a skin specialist when the condition was first noticed some two months previously.

As this condition of lupus erythematosus is not infrequently found in conjunction with a focus of infection of which the causal organisms are usually the tubercle bacillus or a streptococcus, a complete medical and dental investigation was carried out.

The medical examination, which included chest radiographs, revealed nothing.

On a dental clinical examination no abnormality was detected in the patient's teeth or surrounding tissues except a slight dullness on percussion of the lower left first premolar, which had a compound amalgam restoration and gave no thermal response. A complete mouth X-ray revealed that this tooth had a small apical area (*Fig.* 1), the rest of the mouth being normal. It was therefore decided to extract the tooth under a penicillin cover, 300,000 units of procaine penicillin to be given two hours before the extraction, and similar doses on the two following days.

Just prior to the extraction a blood-count was taken and the white cells showed 24,000

Fig. 1.—Showing apical area of tooth.

per c.mm., of which polymorphs predominated. The tooth was extracted, after cauterizing the gingival crevice, and sent for culture from the apex.

The culture showed that a hæmolytic streptococcus was present.

Three weeks later another blood-count was taken, when the white cells had fallen to 10,000 per c.mm. The areas of lupus on the face had almost disappeared.

PREVIEW

No. 9 MAY

Æsthetics and the Use of Clear Acrylic Resin to Simulate Interdental Spaces in Dental Prosthesis - *A. E. Everett, L.D.S. R.C.S.*

A Practical Solution to the Problem of the Loose Contact - *John C. Fry, L.D.S. R.C.S., D.D.S.*

Time to Take Stock - *J. P. Howes, L.D.S. R.C.S.*

Dental Mechanics and Materials, No. 2 - *John E. Seear, L.D.S. R.C.S.*

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CEMENTING GOLD INLAYS

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Of the three most common materials used in conservative dentistry there would be listed the following: zinc oxide and oil of cloves, amalgam, and zinc oxyphosphate cement.

A good deal has been written regarding the use of zinc oxide as a filling material, volumes have been written concerning the use of amalgam, but there seems to be very little literature concerning the use of oxyphosphate cement when employed as a medium for the insertion of a gold inlay into a tooth. Unfortunately a large number of perfectly good and well-fitting gold inlays are spoilt by an incorrect cementation technique. It is assumed that the gold inlay to be cemented is well adapted to the floor, walls, and enamel bevel of the preparation; that the contour and occlusal surfaces are good; and that the contact point is of the correct strength. It has been the unhappy experience of the author, and of others, that after having been perfectly satisfied with the try-in fit of a gold inlay, there has on occasions been some disappointment after cementation owing to either a cement line being visible or the bite having been raised. These faults can be avoided if a careful and thorough technique is always employed in the cementation of a gold inlay, no matter how small or how large. Those of us who have had some experience of engineering or even carpentry will appreciate the fact that the strongest joint is where the glue, the solder, the brazing, or the weld is thinnest. It is believed that the same principle applies to this question of cementing gold inlays. They should be as close a fit as possible to the floor, walls, and the enamel bevel, particularly at the cervical margin of the cavity.

Years ago one was taught that a gold inlay was merely "an island of gold in a sea of cement". Looking back at some of one's own efforts one realizes how true was the statement usually given by those protagonists of the cohesive gold foil, but it is felt that with modern casting technique and with the cements now at our disposal this definition can and should be changed. The scientists tell us that there is no adhesion in zinc oxyphosphate cement, which is the usual medium employed for the insertion of gold inlays; but be this as it may, there must be some mechanical lock established when the cement hardens. The importance of choosing a cement of the highest quality cannot be over-emphasized. Amongst those qualities which the cement should possess, the following are considered essential:—

1. The cement should be easily mixed. The more involved the technique of mixing, then the more likelihood there is of abuse.

2. The cement should be as non-irritating to the pulp as possible.

3. The cement should be of fairly slow setting time so that one is not hurried in filling the cavity with cement or in putting cement on the inlay and rushing it into position, only to find that it is setting before the inlay is firmly and finally seated home.

4. The cement should be highly insoluble. It is not always possible to remove every speck of cement from every surface of the bevel of the inlay.

5. The rise in temperature during the setting time should be as minimal as possible.

6. The cement should be non-porous.

7. It should be of high edge strength in order to avoid fracture during occlusal stresses.

8. The grains of the cement should be sufficiently small for an extremely thin film of cement to be obtained.

Assuming that all the foregoing qualities are amongst those in the cement of our choice, it is most necessary to follow the manufacturers' instructions for the mixing. It is usual to employ a glass slab at room temperature, which as a standard is 20° C.; the liquid and the powder are placed on the glass slab and the powder is divided into approximately five separate piles. Each batch of powder is slowly

and thoroughly spatulated into the liquid, taking approximately 20 seconds each time a new pile of powder is brought into the liquid; the total time taken should be approximately 1½ minutes for the total mixing. If this technique is followed, then the setting time of the cement when transferred to the temperature of the tooth, which is approximately 37° C., will be seven minutes from the start of the mix to the final set. If the cement powder is incorporated into the liquid too quickly three serious faults may develop: (*a*) The rise in temperature due to rapid chemical action can be as high as 35° C.; (*b*) There can be formed in the mixed cement small bubbles of gas which will give the cement some high degree of porosity; (*c*) Owing to the excessive heat obtained, the setting time is very rapid.

Having obtained the mixed cement of the consistency required, it may be placed in the cavity by means of a probe. Needless to add, the toilet of the cavity itself, and of the inlay, has been performed before the mixing was commenced. Having placed the cement in the cavity, the inlay is then placed in position.

Now it is a proved mechanical fact that by employing hand pressure on a gold inlay, a force equivalent to 80 lb./sq. in. may be produced—that is, the maximum force which can be obtained by pressing an instrument on a gold inlay. In order to obtain the greatest pressure possible it is quite easy to utilize a mechanical and natural force which is present in every tooth having an opponent. The average force which can be exerted by the bite on a normal healthy tooth is in the region of 200 to 250 lb./sq. in. If that force be employed in the final seating of the gold inlay, a far closer adaptation of the gold inlay will result, a thinner film of cement will be obtained, and the cement margin will be practically negligible. It is suggested, therefore, that when the inlay has been placed in position and pressed home with an instrument, a matchstick or a wooden toothpick should be placed across the occlusal surfaces and the patient be instructed to bite as hard as possible and maintain that pressure for at least three minutes.

It has been noticed that the majority of operators, and certainly of dental chairside assistants, mix zinc oxyphosphate cement far too quickly, and it is recommended that a clock be employed during the mixing of the cement in order that the correct mixing time may be obtained. It is further suggested that if this technique of slow mixing is not already in use, then the operator should try it out and notice the difference in the smooth creamy consistency and the slower setting time which can be obtained quite easily.

The care and time spent on this often neglected phase of conservative dentistry will be more than repaid by the consistency of results obtained.

A PRE-MADE CROWN

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THE pre-made crown can be so called because the crown is actually made before commencing the preparation of the tooth to be crowned. There are several quick and easy ways of making crowns:—

1. If the tooth to be crowned presents a reasonable outline and is being crowned because it is discoloured, a Zelex impression can be taken direct from the mouth.

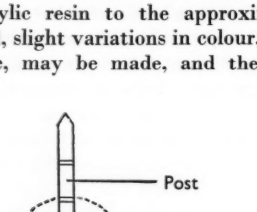
2. If the outline is damaged or broken, a plaster model can first be made and the outline of the tooth built up on the model; a Zelex impression may then be taken from the model.

Outlines in wax may be made very quickly and easily by pouring molten wax into the Zelex impression, allowing it to set, and then removing. This process can be repeated five or six times in about as many minutes from a freshly taken Zelex impression, and thus we can readily obtain five or six wax crowns.

3. If, however, the tooth to be crowned is so badly broken or destroyed that it can give

us no indication of the outline the crown is to take, the plaster model may be trimmed back to the gum margin approximating the actual preparation that is anticipated and wax crowns can be built up freehand on the model.

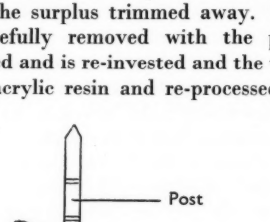
Having made several wax crowns by one of these methods the crowns can then be processed in acrylic resin to the approximate shade required, slight variations in colour, and even in shape, may be made, and then as



many as six wax crowns may be invested in a flask and processed in the normal manner. Before the actual preparation is commenced the most suitable of the crowns should be selected: it may possibly happen that none of the prepared crowns is exactly to one's ideal requirements, in which event an opportunity is then given to make some further crowns before the actual preparation is commenced. However, having selected the most suitable crown, the preparation is proceeded with—whether it be for a post crown, or a jacket crown—in the usual manner.

If the crown is to be a jacket crown the appropriate acrylic crown is hollowed sufficiently to be fitted easily over the preparation. The hollow is then filled with molten inlay wax, the crown is pushed into position, the wax being allowed to cool, and the surplus trimmed away. The crown is then carefully removed, re-invested, and the inlay wax is replaced by acrylic.

If the crown is to be a post crown the post is fitted into the preparation and the pre-made acrylic crown is hollowed to accommodate the post, it is then stuck into its correct position on the post by means of a little hard sticky wax. When the hard sticky wax has set firmly the crown plus post are carefully removed. The molten inlay wax is then added to the crown on the fit surface and the crown immediately returned to the preparation and pushed firmly into position: the inlay wax is allowed to cool and the surplus trimmed away. The crown is carefully removed with the post firmly attached and is re-invested and the wax replaced by acrylic resin and re-processed.



Some of the advantages of this method may be outlined as follows:—

1. As the bulk of the crown making has been completed before the preparation is commenced, the time needed to elapse between the preparation and fitting the complete crown can be reduced very considerably, as this final stage can be completed in about half an hour, thus avoiding considerable inconvenience to the patient.

2. One of the spare crowns may easily be fitted as a temporary measure during the interval from preparation to completion.

3. As the bulk of the crown is processed beforehand there is little chance of any shrinkage occurring during the processing which may affect the final fit of the crown.

4. As the crowns that are made surplus to requirements are returned to stock it is possible, when the stock has reached a reasonable size, that a suitable crown may be selected straight from stock, which would then mean that it would be possible to do a complete crown if called upon to do so in an emergency in as short a space of time as a few hours.

SOME PSYCHIATRIC ASPECTS OF DENTISTRY

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SUCCESS in the dental profession depends just as much on the correct handling of the patient and understanding of his psychological needs as upon correct technique within his mouth. Although this is true in the patient's interests as much as in those of the dental surgeon, it is a strange thing that a maximum of mechanical instruction is given to the practitioner and a minimum of psychological guidance.

MENTAL DEFICIENCY

Mental defectives often have some organic fault in the brain, and we might reasonably expect other structures, especially ectodermal ones, to be affected as well. Thus we find that the teeth may be malformed or peg-shaped, small (microdontia), or showing hypoplasia of the enamel (Spitzer and Mann, 1950). Some of these patients, especially if epileptic, enjoy having their teeth extracted, and it is almost cruel to give them an anæsthetic for this operation; such is the perversion of their senses.

UNCONSCIOUS ATTITUDES

Psycho-analytically, to the infant the tooth is an offensive weapon, and this is seen too in the unconscious beliefs of the adult, including that of the toothed vagina (Elwin, 1943). In the otherwise ordinary baby, if the teeth have already come through at birth, the breast may be bitten, causing feeding difficulties. This may also happen in the normal late suckling—compare "He bites the hand that feeds him".

Teething is itself a major event, ushered in with pain, tears, and even convulsions—though these last are uncommon now that rickets is so rare. Sometimes the loss of milk teeth is accompanied by enuresis, and one seven-year-old boy, dull, backward, and emotionally immature, became drier after spontaneously discussing the loss of his teeth; he twice later relapsed on the eruption of a front tooth. Nurses say that if a usually dry child goes to bed with a loose tooth, he is often found next morning with the tooth out and the bed wet.

As usual, dreams help to explain the psychological meaning. If a woman dreams that she, or her husband that he, has the toothache, they believe that she is pregnant. Freud (1948) pointed out that, although a dental dream may be caused by a dental stimulus, it may also signify parturition to women and masturbatory desire in men. In my clinics, the psychotherapist has been dreamt of as a dentist who with difficulty wrenches out the tooth—symbolizing a repressed incident—or who drills and probes ever deeper into it.

FOLKLORE

But it is, above all, in primitive customs that the deep psychological significance of teeth is most apparent. Loss of teeth symbolizes a loss of virility and so it is commonly found in initiation ceremonies. These are usually unpleasant or even dangerous rituals, undergone by the boy at puberty, before he is admitted to full manhood. For example, in the southern coast tribes of New South Wales, resurrection from the dead was shown graphically to novices after an old man had knocked out one tooth from each with a wooden chisel and hammer (Frazer, 1914, **11**, 235). In the Wongli tribe, a tooth is knocked out and a new name given to the initiate (*Ibid.*, 227) to indicate the change from youth to manhood (compare our alteration from "Master" to "Mr." or "Esq."). The ceremony is accompanied by a loud humming and is supposed to be performed by a Being called a Thurumbi, who takes the youth away, kills, and may even dismember him, and then returns him to life, though minus a tooth.

In some of these ceremonies special care is taken to see that no blood falls on the ground (Frazer, 1914, **3**, 244). A sympathetic relation persists between the lad and his extracted tooth, which must be treated with special care, perhaps being passed from one headman to another and then finally back to the lad. It has to be kept away from magical substances lest these damage the tooth and thus, by

sympathetic magic, the lad himself. Indeed, a member of the Muring tribe actually travelled 250 miles to fetch back such a tooth because the initiate had fallen ill, which was attributed to such an influence.

Extracted teeth may be acted on magically, as shown above, and the Basutos are careful to hide them so that they do not fall into the hands of mythical beings called Baloi, who haunt graves and by working on shed teeth can harm the owner (Frazer, 1913, **1**, 177).

In the Dieri tribe of New South Wales, however, these chances were avoided (Frazer, 1913, **1**, 176–7), the sympathetic chain being broken by means of a special ceremony which was performed to take all the life out of the teeth and so preserve their owner from such influence (compare our devitalizing of teeth). In Bali boys' teeth were filed before marriage and they were kept in the dark for three days (Frazer, 1914, **10**, 68 n.). Now, although the rite of knocking out teeth was an integral part of the boy's initiation amongst some Australian tribes, in Central Australia the custom had not this context and two wholly different justifications were offered: the Kaitish explained that, in the mythical period, teeth were knocked out because water tasted better without one of them, but now they merely practise the custom to improve their personal appearance (Lowie, 1936). This, of course, is just like the recent practice of some of our dentists in extracting four molars at puberty on a similar specious plea, possibly supported by the speculation of Keith (1923) that the mouth had grown too small for the teeth in the course of evolution! It is conceivable that some similar changes might take place owing to faulty nutrition in early life. Indeed, in this modern case the custom has even lost its magical meaning, for it is applied to both sexes indiscriminately, although one mother brought her daughter to the dental clinic at puberty and demanded the extraction of her four canines, on the grounds that this would initiate menstruation, which she considered overdue.

On the other hand, in Samoa, baldness and loss of teeth were supposed to be the punishment of the household gods if those who had attended the dead handled food (Frazer, 1914, **3**, 140).

The Yabin of New Guinea believe that a ghost may loosen the teeth of his murderers (Frazer, 1914, **3**, 186).

The Tjingilli knock out teeth towards the end of the rainy season. They throw the tooth into a water-hole so that it may drive the clouds and rain away. The Gnanji not only expect the cessation of rain, but an increase of water lilies to follow a similar procedure (Lowie, 1936).

In West Africa, when the Mani of Chitomba or Jumba died, the people ran in crowds to tear out the hair, teeth, and nails, and kept them as a rain charm (Frazer, 1914, **3**, 271).

In Sussex, eighty years ago, a maidservant strongly remonstrated against the throwing away of deciduous teeth, for if an animal gnawed them the child's new teeth would be like those of that animal, and she cited a man with a large hog's tooth in his upper jaw caused by his mother having thrown one of his own teeth into the pig trough. A similar process has been favoured by putting the teeth into a place where they will be found by a rodent, the hard quality of whose teeth will thus be transmitted to those of the subject. In Germany and Mexico an extracted tooth is put into a mouse hole. Alternatively, they go behind the stove and say, "Mouse, give me your iron tooth; I will give you my bone tooth". In Raratonga, in the Pacific, they pray:—

> Big rat! Little rat!
> Here is my old tooth.
> Pray give me a new one—

and throw the tooth on to the thatch of the house where rodents are likely to be found.

In New Caledonia teeth were used as a charm to make new skin (Frazer, 1913, **1**, 312).

When the Jaga, or King, of Cassange, in Angola, dies, an official extracts one of his teeth and presents it to his successor, who deposits it with the teeth of former kings in a box which remains the sole property of the crown (Frazer, 1914, **4**, 203). These rites are reminiscent of E. A. Poe's story of Berenice.

Folklore Toothache Cures.—There are many remedies for toothache. In Suffolk, you should dress and undress the right leg and foot before

the left (Gurdon, 1893). Some eastern Peruvians rub the cheek with an ounce's tooth; this is infallible (Frazer, 1913, **1**, 153). The Australian blacks apply a heated spear-thrower to the cheek. This is then cast away and the toothache goes with it as a black stone called karrietal, which when thrown at enemies gives them the toothache (Frazer, 1914, **9**, 6). In south Northamptonshire the best remedy is to take a tooth from a corpse's mouth and hang it round the neck in a little bag, or to keep a double nut in the pocket. In the Orkneys the toothache is called the "worm", from the common medieval notion that it is caused by a worm in the tooth or jawbone. Write these 'wormy' lines on a slip of paper, sew it into your dress, and carry it about with you as long as the pain lasts:—

> Peter sat on a marble stone weeping:
> Christ came past and said, "What aileth thee, Peter?"
> "O my Lord, my God, my tooth doth ache!"
> "Arise, O Peter! Go thy way, thy tooth shall ache no more!"

A similar sort of charm is used in Devonshire and elsewhere. In the seventeenth century, Sir Kenelm Digby gave the following sympathetic cure for toothache: "With an iron nail raise and cut the gum from about the tooth till it bleed, and let some of the blood stick upon the nail; then drive it into a wooden beam up to the head; after this is done you never shall have the tooth-ach in all your life". The author naïvely adds, "But whether the man used any spell or any words while he drive the nail, I know not; only I saw done all that is said above. This is used by several certain persons." ("Notes and Queries", *Choice Notes—Folk Lore*, 1859.)

SIGNIFICANCE OF DENTAL APPEARANCE

The appearance of the teeth is said to indicate the character of the person. Lavater (1789), in his famous essays on physiognomy, states that small, short teeth signify a strong body, but long ones indicate weakness and timidity. A person who neglects his teeth betrays ignoble sentiments. Lavater further states that the teeth might form the subject for a large volume, yet painters omit them in their historical pictures. Spon (1947) states that broad and short teeth are found in strong, vital people who like flesh diet. Long and narrow teeth are found in weaklings and consumptives, who eat fruit and grain. If the teeth are medium, regular, and yellow or white, the person is of good constitution and even temper, but if they be irregular he has a commonplace or abnormal mind. Tushes are a reversion to the carnivorous and indicate cruelty and malignance. The more the tooth gums are shown in conversation, the less profound is the mind, and the person is scrofulous or consumptive. If the teeth meet, he is even-tempered.

Irish villagers believe that a mother loses a tooth with the birth of each child. In New Brunswick, among the lower orders and negroes, and among the children of respectable parents [*sic*] it is held that when a tooth has been drawn, if you refrain from thrusting the tongue into the cavity, the second tooth will be golden. ("Notes and Queries", 1859.) Traditionally, losing a tooth means losing a friend:—

> The best of friends fall out, and so
> His teeth had done some time ago.
> —*T. Hood.*

To-day, the significance attached to teeth is seen in speech. You are, I hope, open mouthed to listen to me. I must get my teeth into this problem, unless I have bitten off more than I can chew, and not get fed up to the teeth with it. A glutton digs his grave with his teeth, and so goes, with gnawing pain, into the jaws of death. When down in the mouth, although the tongue ever turns to the aching tooth, we must set our teeth and keep a stiff upper lip in the teeth of opposition. A sweet person is a peach or a toothsome morsel (French *un chou*), and I could eat her up, unless, of course, she sets my teeth on edge. The Americans would come after her with bared teeth. Such expressions are established in records that defy the tooth of time. Just chew them over and keep your mouth shut, avoiding sharp words and a biting or mordant wit; disagreement can be shown by exclaiming "tush!".

Sampson's biting his thumb at the Montagues (*Romeo and Juliet*, Act I, scene i) was perhaps a

way of cocking a snook. It may be related to nail biting ("Any Questions", *Brit. med. J.*, 1950).

Sufficient evidence from folklore has been given above to indicate what the unconscious mind of the public thinks of dentistry. Their conscious attitude is best seen through the eye of the artist in cartoon and caricature. These were mostly factual till the end of the seventeenth century, when they became largely humorous, and by poking fun at the dentist disguised a deep public awe and fear. Possibly this is related to the beginnings of dentistry as opposed to mere tooth drawing and folklore remedies.

CLINICAL

Soma and psyche, or body and spirit, form one whole, e.g., we have the dry mouth of anxiety and the drooling of idiots (Burstone, 1946). Unfortunately, the dentist can easily be preoccupied with mechanical problems. Psychogenic skin diseases such as angioneurotic œdema and lichen planus may affect the mouth, as may idiopathic glossodynia. One patient had swelling and burning in the tongue whenever she was upset. She was cured by psychotherapy (Dunbar, 1948). Nail-biting is a persistent oral-erotic habit. Aggressive instincts would destroy and engulf the outside world and when their repression fails we get bruxism (tooth grinding). Other mouth perversions may cause ingestion of harmful, e.g., highly spiced, foods. Some mothers, working out their own conflicts in their children, may overfeed them on unsuitable food. The child may reject this and so symbolically reject the mother.

Many people are terrified of pain, but can do nothing about it. They dare not face the dental drill a second time. But some, on the contrary, enjoy having their teeth and gums worked on, or wish to lose their teeth, and derive a perverse satisfaction from their extraction. Yet this is accompanied by a degree of anxiety, for a dental extraction symbolizes a sexual assault, and loss of teeth symbolizes castration (Straker and Hyams, 1950). So a surgical addict sacrifices his teeth instead of a phallus, or eye, in expiation of guilt. He usually manages to get the operation done, but the dentist must be strong and confident enough to resist such whims of mental illness. For these people are governed by powerful unconscious impulses. The idea of a "focus of infection" makes them feel that they harbour something "unclean"; they fear that "toxins" or impurities enter the blood-stream from it. Their whole attitude is "out with it" at once, and they are often assisted by a professional adviser who doubts its wisdom but feels that "it will do no harm". This is not so, and the patient usually enjoys short-lived relief, only to relapse to a worse hypochondriasis. He even blames the surgeon who so foolishly performed the operation, e.g., the theory of focal infection, or what not, may by then be out-moded (Weiss, 1944). If we could pile up all the teeth unnecessarily extracted, what an ivory monument we should erect to human credulity! The patient who insisted on extraction may reject his dentures, for these symbolize old age and loss of virility, and they alter his appearance, so the dentist coping with this dissatisfied and militant patient may indeed feel that, like Cadmus, he has sown dragons' teeth from which armed men have sprung up! Further, ill-fitting dentures may themselves initiate a psychosomatic illness.

It is not always an advantage to have the appearance of one's teeth improved. For example, a man fell in love with a chorus girl, who was always put in the back row as she had protruding teeth. She consulted an orthodontist, who corrected this blemish, and she now enjoyed success on the stage. But her lover neglected her. Eventually she lost her teeth, and owing to the shape of her jaws her dentist made her a denture with protruding teeth. Her old lover then returned to her. It was found that his mother had had protruding teeth!

Many pains, including some "neuralgias", about the head and neck are wrongly attributed to dental instead of mental pathology, and to focal sepsis instead of conflict. The correct treatment is a clarification of the life situation and not a clearance of the jaws (Weiss and English, 1943), always remembering that the teeth are as much a part of the personality as any other organ.

Children.—Adults traditionally exaggerate the agony of a visit to the dentist, and so it is wise for the child to begin before any painful procedures are needed. Do not talk down to the child, nor expect reasonable behaviour from adults. Perhaps it is best to treat the child as an adult and the adult as a child. If the mother is in the room, try to prevent her from showing too much anxiety or being too talkative. Worst of all, do not let her hover around asking if the child is being hurt. A few words spent in ignoring the child and talking to her may help (Schulz, 1947). Only use force in a real emergency, for if you hurt the child or frighten him, he may fear ever to return to the dental chair. This creates a sort of vicious circle, for he waits until his teeth are so bad that treatment is painful, and so he is again deterred.

The evils of thumb-sucking have been exaggerated. The child does this if hungry, tense, lonely, or tired. It is only a symptom and is not to be treated directly. (1) Remember that it is normal in infancy, (2) avoid mechanical restraint, foul-tasting applications, shame, criticism, and ridicule—these are all unworthy of a scientific profession. (3) See that he has adequate suitable materials and children to play with. (4) Above all, give him a happy home—if you can (Weiss, 1944).

Adults.—Hypnosis has been used (Barnett, 1950), but is not usually necessary, though premedication may occasionally be advisable. Although some dental procedures can be carried out more easily under hypnosis or even possibly under post-hypnotic suggestion, the drawback is that some patients cannot be hypnotized. Always consider you own actions. Be punctual, courteous, considerate, sympathetic, soothing, and patient. Do not say, "This won't hurt", if it will. Make the period in the dental chair one of rest and relaxation to the patient (Moss, 1950). Consider the individual. Stolzenberg (1950) found that of nearly a thousand visits to the dentist, one-third were unproductive, and that few patients co-operated completely. Some dentists fix a mirror so that the patient can see what is being done and thus gain confidence. Music, radio, or television have been used to help the patient to relax. Indeed, one practitioner has two surgeries and seats the patient in a dental chair some little time before he begins. The receptionist then brings the patient a list of records from which he chooses music, which is played to him while he is waiting and even during the consultation.

In many aberrations—nail-biting, pencil chewing, tapping the teeth, bruxism, and even pyorrhœa—there are unconscious emotional factors (Katz and Bruder, 1948). Mere conscious exhortation will not help, much less will punishment by hurting the patient. Of course, dental troubles can work both ways, and an emotional disturbance may cause oral disease, e.g., gingivitis was found to increase amongst flying personnel, whose general habits deteriorated. Oral deformity or dental fear may cause emotional disturbance, and there may be intermediate actions and reactions.

EPILOGUE

The patient's attitude to the dentist is important. She may dislike him and habitually miss her appointments, or do badly with him and yet do well with a colleague. On the other hand, she may have a "crush" on him and be constantly producing new lesions in order to have fresh opportunities of seeing him (Ash, 1950). The dental surgeon must consciously set out to create confidence. Firstly, he must be thoroughly competent. Next, he must be clean and, what is more, be seen to be clean. Wash your hands within sight of the patient and give her a clean glass when she gets into the room. In your own interests and the patient's, it is surely worth while wearing a mask, preferably a transparent one, so that there is less risk of cross-infection, and you may talk more freely. Modern transparent masks will not hide your personal beauty!

There are certain subjects which would repay psychological research, but this could only be carried out by the dentist; what are the peculiar mental states or conflicts which cause certain specific dental disorders, and in particular what is the sort of emotional stress which causes a patient to break his natural or artificial teeth?

Lastly, ask yourselves the question, "Why did I really take up dentistry?", and do not

feel afraid if the answer is not flattering. If it is flattering to your self-esteem, be very suspicious of it. Knowing your own motives will enable you to handle your patients' problems with more understanding, and if this article has succeeded in inducing you to examine yourself, its object has been largely achieved.

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PARLIAMENTARY NEWS

Questions and Answers

Dental Monopolies Commission Report

Mr. Crosland (Lab., Gloucestershire, S.) asked the Minister of Health, whether, and if so when, he proposed to make an order prohibiting the restrictive practices of exclusive dealing and collective boycott in the supply of dental goods following the report of the Monopolies Commission on this subject presented on Dec. 1, 1950.

Mr. Blenkinsop (Parliamentary Secretary, Ministry of Health) in a written reply, said: In consultation with the President of the Board of Trade, the Minister proposes as soon as practicable to lay an order under Section 10 of the Monopolies and Restrictive Practices (Inquiry and Control) Act, 1948. (*Th.*, *March* 1.)

School Dental Service

Mr. Hollis (C., Devizes) asked the Minister of Education how many dentists are at present giving their whole-time services to the School Dental Service, and how many children are entitled to the use of that service.

Mr. Tomlinson, in a written reply, said: Precise figures are not available, but at the end of last year dentists employed in this service were giving time to school work equivalent to that of 717 full-time officers. The duty of local education authorities to secure the provision of medical and dental treatment for pupils in maintained schools extends to approximately $5\frac{1}{2}$ million children. (*Th.*, *March* 1.)

"C" Carriers' Licences

Mr. Hare (C., Sudbury and Woodbridge) asked the Minister of Transport whether he has now come to a decision on the question of exempting dual-purpose vehicles from the need for "C" Carriers' Licences when used by doctors, veterinary surgeons, or dentists in the normal course of their professional duties.

Mr. Alfred Barnes replied: Draft regulations on this subject, of which I am sending the hon. member a copy, were circulated last week to interested organizations for comment. (*M.*, *March* 5.)

Dental Industry Report

Mr. Leather (C., Somerset, N.) asked the Minister of Health what action he proposed

to take regarding the Monopolies Commission Report on the Dental Industry.

Major Wilkes (Lab., Newcastle-upon-Tyne) also asked the Minister of Health what action he intended to take on the Report by the Monopoly Commission on Dental Goods in order to lower the costs incurred by the National Health Service in respect of these goods.

Mr. Marquand: I will, with permission, answer these questions together. I hope to lay before the House within the next few days an Order under Section 10 of the Monopolies and Restrictive Practices (Inquiry and Control) Act, 1948. I hope that elimination of the practices which at present restrict competition in the dental trade will result in a reduction of prices.

Mr. Leather: Would the Minister not agree with the opinion of his Commissioners that it is wrong to prohibit in one industry what is allowed in other industries? Would he tell us whether he is prepared to recommend to his colleagues that they should grasp the thorny nettle and ban all collective boycotts?

Mr. Marquand: I would not agree it is right to permit abuse to continue merely because it is widespread, and in any case the majority of the Commission recommended immediate action.

Mr. E. H. Keeling (C., Twickenham) asked if it was not better to await the report on three or four more industries in order that there should be a co-ordinated policy.

Mr. Marquand: No. If a burglar breaks into my house I don't ask the police to wait until ten other cases have taken place.

Major Wilkes recalled the many requests made to the Minister to reduce the cost involved in the National Health Service and suggested that the implementation of some of the recommendations by the Commission on dental goods would tend to have that welcome effect.

Mr. Marquand: I am sure it will. (*Th.*, *March* 15.)

National Health Service—Aliens, Costs

Mr. Nabarro (C., Kidderminster) asked the Minister of Health whether he will state the estimated cost during the fiscal year 1951–2 of providing benefits under the National Health Service to foreigners visiting and/or working in the United Kingdom, including the cost of such equipment as hearing aids, spectacles, dentures, and surgical accessories.

Mr. Marquand: Separate figures for this are not available.

Mr. Nabarro then asked, in view of the fact that there must be a considerable cost involved in those services for foreign visitors, would the Minister consider a minimum residential qualification for those receiving free benefits, and use his powers to charge foreigners where that minimum qualification was not fulfilled.

Mr. Marquand replied that he was advised that the cost of treating foreign visitors was almost negligible. (*Th.*, *March* 15.)

School Dental Service

Brigadier Medlicott (C., Norfolk, C.) asked the Minister of Education how many school dentists were employed for the schools under his jurisdiction in the county of Norfolk, either on a part-time or a full-time basis.

Mr. Tomlinson, in a written reply, said: There are five school dental officers, all full-time, in the employment of the Norfolk County Council. (*Th.*, *March* 15.)

Sir Hugh Lucas-Tooth (C., Hendon, S.) asked the Minister of Health what was the annual intake of dental schools in the years 1946, 1947, 1948, 1949, and 1950 respectively.

Mr. Marquand replied: 641, 654, 662, 611, and 606 respectively.

Sir Hugh asked how long it would take before there was an adequate number of dentists.

Mr. Marquand replied: The decrease is explained by the fact that during the war there was a lower intake and therefore in the first few years after the war it was possible to increase the entry. It is now necessary to get a balance and the numbers are slightly reduced. I agree that the total intake is not satisfactory for the country as a whole. (*Th.*, *March* 15.)

National Dental School—Wales

Mr. Llewellyn (C., Cardiff, N.) asked the Minister of Health whether he would consider

the establishment of a National Dental School for Wales in conjunction with the scheme for the 1000-bed teaching hospital to be established at the Heath, Cardiff.

Mr. Marquand, in a written reply, said: Yes, sir. I, for my part, will be glad to consider any proposals that may be submitted. (*F.*, *March* 16.)

Dental Monopolies Commission Report

Mr. William Shepherd (C., Cheadle) asked the President of the Board of Trade if he had decided to bring in any legislation following the Report of the Monopoly Commission on Dental Goods.

Mr. Bottomley, Secretary for Overseas Trade, in a written reply, said: It has been decided that the appropriate legislative action on this report is to lay before Parliament a draft Order under Section 10 of the Monopolies and Restrictive Practices (Inquiry and Control) Act, 1948. The draft Order was laid on Friday last by my right hon. friend, the Minister of Health. (*T.*, *March* 20.)

Dental Patients—Wooden Medicated Gum Massagers

Mr. Snow (Lab., Lichfield and Tamworth) asked the Minister of Health if he would take steps to ensure for the use of dental patients an adequate supply of non-splintering wooden medicated gum massagers.

Mr. Blenkinsop, in a written reply, said: My right hon. friend is not aware of any shortage of these articles. (*Th.*, *March* 22.)

Dentists' Remuneration Statistics

Sir Hugh Lucas-Tooth (C., Hendon, South) asked the Minister of Health whether he would give details showing how the various fees included in the total amount of £43,048,000, which was payable to dentists during the financial year 1949–50, were divided between fees for extractions, provision of new dentures, dental examinations, and dental conservative treatment, respectively.

Mr. Blenkinsop, Parliamentary Secretary, in a written answer, said: Full information in this detail is not available. But, on the basis of a sample, it is estimated that the total cost may be divided as follows:—

Examinations ..	.. 5 per cent
Extractions ..	.. 6 per cent
Dentures ..	.. 61 per cent
Conservative work	.. 28 per cent

(*Th.*, *March* 22.)

School Dentists

Mr. David Griffiths (Lab., Rother Valley) asked the Minister of Education how many school dentists were employed for the school population in the Rother Valley area, part or full-time.

Mr. Hardman, Parliamentary Secretary, replied: There is no school dentist at present in this area, but emergency treatment is available at the dental clinic at Rawmarsh.

Mr. Griffiths asked if he was aware that there were 12,000 schoolchildren in the area and for a considerable time no school dentist had been available even for one day a week.

Mr. Hardman said that in the past the work had been carried out by visiting dentists, although he was not suggesting that represented all the Ministry should do. He was surprised at Mr. Griffiths's figure of some 12,000 children unserved by the dental services. "The nearest figure I have is some 8000, but I agree something must be done in the matter". (*Th.*, *March* 22.)

In the House of Commons debate on March 13, on the Durham County Council's closed shop policy, Mr. William Blyton (Lab., Houghton-le-Spring) drew a parallel between Council employees and other professions.

The Dental Board has a closed shop, he said. They have said they would have no foreign dentists in this country, but the miners were forced to take in foreign labour. "You never hear about the ban on foreign dentists", he commented.

CORRECTION

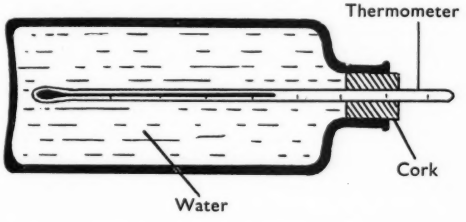
In the article on Dental Mechanics and Materials in the March issue, the illustrations *Figs.* 4 and 5 were inadvertently transposed.

ILLUSTRATED HINTS

A USEFUL MIXING SLAB

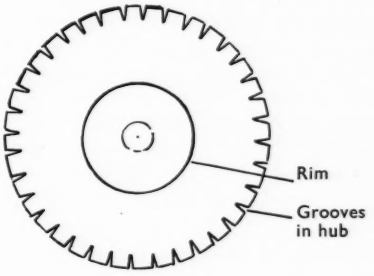
A very useful mixing slab can be made using a medicine bottle, a cork and a thermometer. The diagram below will illustrate the method.

It is obvious that by the use of this " slab " the temperature of the mixing surface can be altered merely by filling the bottle with cold, tepid, warm, or hot water as desired, and the exact temperature will be clearly visible via the thermometer.

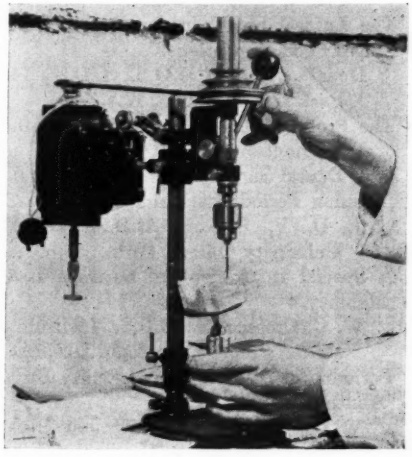


A SIMPLE " VIBRATOR "

A simple " vibrator " can be made from an old lathe brush as follows: burn off bristles and with a rough file groove the wooden hub. Run slowly on lathe, resting impression tray, etc., on rim of hub.



H. I. Tozer.



A MODEL SURVEYOR

If your laboratory is equipped with a bench drill, or if one is within easy access, it can be usefully employed as a model surveyor.

The only additional component is the surveyor table. A " pan-and-tilt " head from a camera tripod (preferably with a wide base) admirably fulfils this requirement. The model can be attached with sticky wax. A bur is inverted and gripped in the chuck to form the analysing rod. The model is then tilted to find the most favourable undercuts, together with a common path of insertion. The table is locked in this position, the bur replaced with a 2B pencil suitably shaved, and the survey line marked on the teeth or abutments.

S. W. Jackson.

LETTER TO THE EDITOR

March 14, 1951.

To the Editor.

Dear Sir,

In your report of the Proceedings of the British Society of Periodontology Mr. Leatherman is quoted as speaking a word of warning against red toothpaste. Would he, or some other expert, care to elaborate upon this? One realizes the commonly quoted objection that the red colour may possibly mask the real colour of the gums, and also that unskilfully used it may be left on the teeth, which is certainly not æsthetic, but it would be interesting to know whether periodontologists consider it to be actively harmful, and if so, in what way. I have always told patients that if they cared to use it, there was no objection, and that as a lubricant for the toothbrush it was probably no better and no worse than most other dentifrices (with some obvious exceptions).

I should like to congratulate you upon publishing these proceedings, which are of great interest to the general practitioner.

Yours faithfully,

W. G. CARNEGIE DICKSON.

4, *Edgar Buildings*,
Bath.

[Mr. G. H. Leatherman says: The warning was based on the fact that a large number of our population have bleeding gums, and the evidence of this bleeding is masked to a large extent when red toothpaste is used.

I quite agree with Mr. Carnegie Dickson that otherwise, as an adjunct to the use of a toothbrush, it is no better or worse than most other dentifrices.]

BRITISH SOCIETY OF PERIODONTOLOGY

Clinical Meeting and Annual General Meeting

To be held at The Institute of Dental Surgery, Eastman Dental Hospital, Gray's Inn Road, London, W.C.1., April 9, at 2.30 p.m.

PROGRAMME

Clinical Meeting (2.30–4 p.m.):—

Clinical Demonstrations, 2.30 p.m. and 3.15 p.m. (Department of Periodontia):—

"Gingivectomy by Electro-Surgery."
P. A. Trotter, B.D.S., H.D.D., King's College Hospital Dental School, Denmark Hill, London, S.E.5.

"Gingivectomy using a Special Knife."
G. C. Blake, M.B., B.S., L.D.S., Institute of Dental Surgery, Eastman Dental Hospital.

"Cases of Periodontal Disease under Treatment."
W. G. Cross, M.S., B.D.S., Institute of Dental Surgery, Eastman Hospital.

Table Demonstrations (Lecture Theatre):—

"The Traumatic Aetiological Factor in Periodontal Disease."
Prof. J. J. Holst, Copenhagen Dental School.

"Gum Stimulation by High-pressure Pulsating Jet."
J. R. Ritblat, L.D.S., 52, Welbeck Street, London, W.1.

"The Lateral Shield in the Prevention of Gross Food Impactions."
Donald Derrick, D.D.S., L.D.S., 140, Park Lane, London, W.1.

"The Problem of the Functionless Tooth."
H. Thomson, H.D.D., Institute of Dental Surgery, Eastman Hospital.

"Common Periodontal Crimes."
J. D. F. Ollivere, B.D.S., H.D.D., University College, Cork.

"A Special Instrument to measure Tooth Mobility."
W. G. Cross, M.S., B.D.S., Institute of Dental Surgery, Eastman Hospital.

"Periodontal Diseases due to Faulty Bridge Abutments."
W. Grossman, M.D., L.D.S., 79, Harley Street, London, W.1.

An Ultra-violet Device for the Destruction of Bacteria on Contaminated Dental Handpiece Surfaces

A preliminary report of sterilizing handpieces by means of ultra-violet light is presented. The author stresses the importance of such a procedure as a public health measure to prevent cross-infections. The apparatus consists of a cabinet attached to the dental unit containing a 4-watt ultra-violet lamp with an output of ultra-violet energy in the 2537 Å band, the lining being of anodized aluminium. These rays have a broad bactericidal effect, capable of killing a heavy suspension of tubercle bacillus in ten minutes. A series of tests was made with contaminated handpieces placed in this apparatus for varying periods between one and sixty-four minutes. The data obtained show that a 50 per cent reduction in the number of viable bacteria lies somewhere between 4 and 8 minutes' exposure time and that a 95 per cent kill takes half an hour. After the use of positive methods of sterilizing, the device may be used in operative and surgical procedures for the purpose of suppressing contamination before and during use on patients. A more powerful device is contemplated which would kill 99 per cent of surface bacteria in one or two minutes.—Dietz, V. H. (1950), *Oral. Surg., oral Med., oral Path.*, **3**, 1455, 1565.

ABSTRACTS
from Other Journals

Fetor ex Ore

This is a collective review of the whole subject of fetor ex ore, which is defined as a foul, offensive, or bad breath. It is important that dentists should have a good general knowledge of this unpleasant ailment as most patients will consult them about treatment. The patient who suffers from halitosis labours under a severe social handicap which may give rise to a psychosomatic state, so that the differential diagnosis may be difficult and treatment may have to be twofold. The odour may arise from physiological factors or may indicate undesirable and pathological conditions.

As the human breath varies considerably with the time of day and the state of hunger, it is a mistake to think that every case of bad breath is abnormal or indicates a pathological condition. Certain mouth odours are physiologic and transient, such as menstrual breath, hunger breath, morning breath, smoker's breath, so it must be realized that the normal breath odour is an individual and changing characteristic.

The odours arise from local conditions within the mouth or systemically as volatile excretion products from the blood via the lungs, and a real distinction must be made between the two. It appears that the mouth and the lungs are of equal importance as a source of odours, although the use of the osmoscope has tended to settle the question of their relative importance. Mouth odours may arise from food retention, diseases of the mouth such as gingivitis, caries, coated tongue, or mouth breathing, most of which are dealt with by oral hygiene and the treatment of the disease. Odours arising from the lungs may be due to diseases of the bronchi or the lungs themselves, or systemically from the blood.

Treatment will largely depend on the differential diagnosis, and the authors discuss fully the clinical methods as well as the use of the osmoscope. Clinical assessment will usually reveal whether the source of the odour is oral or systemic. The authors stress the fact that the dental practitioner should be acutely aware of fetor ex ore as he is in a position to render an important service to his patient by removing the cause. There is a timely reminder that the dentist should also look to his own breath as the patients who suffer from these forms of halitosis are often unaware of its existence until it is pointed out to them.—Massler, M., Emslie, R. D., and Bolden, T. E. (1951), *Oral Surg., oral Med., oral Path.*, **4**, 110.

Tooth Extraction as an Orthodontic Measure

The question of extracting teeth in orthodontic procedures has always been one of controversy, and the author clarifies the position in a rational manner. Angle taught that extraction should never be done, that all the teeth should be kept and normal occlusion obtained. Serial models over a long period of time show that this method tends to lead to a relapse in some cases. The orthodontist is in the difficult position of not always being able to follow up the cases successfully, particularly when the child has grown to an adult. It is pointed out that extraction or non-extraction are not alternative treatments; the choice depends on whether the basal bones are large enough to contain all the teeth in line. The child with small basal bones is born with small basal bones and these cannot be enlarged or changed in any way, more than they will change naturally. The size of the dental arches depends upon the size of the basal bones, and if all the teeth cannot be maintained within the small arch, then the treatment will include extraction.

In considering which tooth or teeth are to be extracted, diagnosis is of the utmost importance, and will depend upon the individual case. The lower arch lies within the upper arch, so that an extraction of an upper tooth will not reduce the size of the arch, the teeth merely moving around until the space is closed. If a lower tooth is removed when the basal bones are too small, a reduction in the size of the lower dental arch results, with a corresponding reduction in the size of the upper. Although the loss of the premolars is visualized as a general rule, the operator should not be too rigid as to the removal of these teeth. A tooth in poor condition should be considered before a sound one, symmetrical extraction is not necessarily to be followed, and the removal of the four molars is not advocated. The importance of maintaining a space is stressed, particularly when a tooth is extracted for another one to take its place. The well-being of the tissues is a factor in favour of extraction, as there is little doubt that the less appliances are worn, the better it is for oral health.—CHAPMAN, H. (1950), *Internat. dent. J.*, **1**, No. 2, 101.

BOOK REVIEW

ACRYLIC INLAYS, CROWNS AND BRIDGES. By IRWIN ROBERT LEVY, D.D.S. Pp. 128, with 151 illustrations. 1950. London: Henry Kimpton. 27s.

IT is perhaps unfortunate, as far as this book is concerned, that acrylic resin as a material for the construction of inlays is not only considered unsuitable, but is actually proscribed for use by the majority of dentists in this country.

The author has tried to put this highly controversial subject in the best possible light, but unfortunately does not present his case very convincingly. He advocates some procedures which must be strongly deprecated, such as the technique illustrated for separating teeth, which must have the most harmful effects on the paradontal tissues, and the suggested use of silicate cement in crown forms placed apparently directly on the newly-exposed dentine of a jacket crown preparation.

Cavity and abutment preparation are dealt with adequately, but details of handling and processing are vague. For example, the importance of "masking" gold before applying acrylic facings is stressed, but there is no mention of the materials suitable for this purpose.

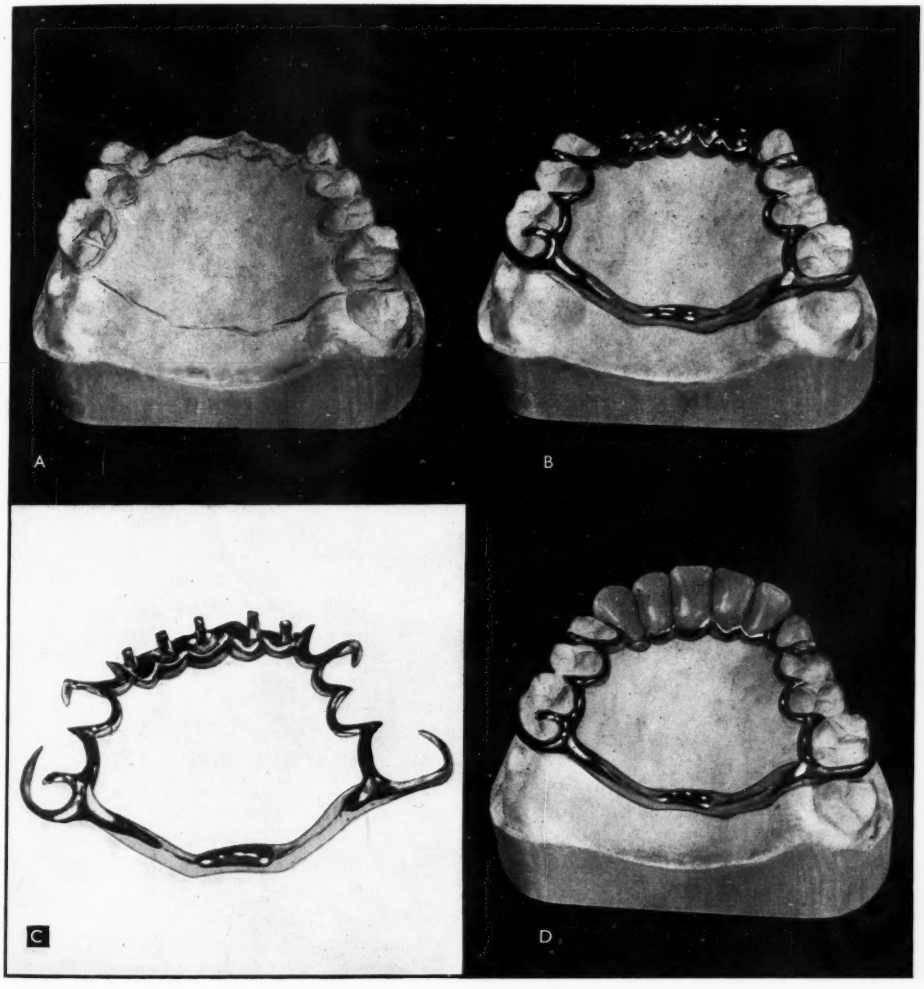
There are some excellent illustrations, many of which are borrowed from another author. Some of the illustrations, however, fall far short of this high standard, and a proportion of them seem to be quite unnecessary "padding", such as the photograph on page 79 of a box of celluloid crown forms.

D. F. S.

Issued with "The Dental Practitioner", April, 1951, Vol. I, No. 8

PARTIAL DENTURE CONSTRUCTION PROBLEMS

CHART No. 4



The problem of the "case of the missing incisors" is dealt with here, as will be observed from chart A. The difficulty is normally one of retention and, of course, each case must be dealt with on its merits. Main retention in this instance was obtained by clasping $\frac{6}{6}$, making good use of the mesiolabial undercuts, with added retention forward of spurs between $\frac{54}{34}$. These spurs also serve the function of occlusal rests, and prevent any tendency of the denture to drop in the forward area. It will be observed that in this case a shaped finishing line has been incorporated for the teeth; also posts for attachments. The teeth were fitted and tried in the mouth on wax before casting the framework. The finishing line was then readily ascertained, a labial checkbite made, and the teeth remounted on the framework.

A, The case as presented; B, The framework on model; C, The framework off model; D, The finished denture.

OFFICIAL SUPPLEMENT OF THE

SURGICAL INSTRUMENT MANUFACTURERS' ASSOCIATION (INC.)

DENTAL LABORATORIES SECTION

Chairman : E. G. EMMETT, F.I.B.S.T.

Administrative Offices : 6, HOLBORN VIADUCT, LONDON, E.C.1

Telephone: CITY 6031

No. 1 April, 1951

Editorial Committee: MR. C. M. BOOTH; MR. H. J. POTTER

LETTER FROM THE CHAIRMAN

IT is my privilege, as Chairman, to introduce a new feature into our activities, a feature that I am sure will be beneficial to us all. Since the inception of the Dental Laboratories Section of the Association, about twelve years ago, the Committee has experienced difficulty in conveying its ideas, aims, and objects to the Profession in general, but now through the medium of the DENTAL PRACTITIONER this difficulty will, I hope, become a thing of the past.

The Chairman: Mr. Eric G. Emmett.

The Editor of this journal, by the active part he has played in dental craft matters, has demonstrated to the laboratory and its staff, that he, like many notable practitioners, recognizes the absolute need for the closest possible liaison between the dental surgeon and his technician. With this object constantly before us, we hope to present in the accepted ethical way the viewpoint of the professional laboratory, and to this aim we invite and encourage comment and criticism both from our members and from the profession generally.

Through our representation on the National Joint Council and its allied committees, the Association has always played a full part in the dental world. Much hard work has been done in raising the standards of the technician through the agency of the N.J.C. Education Advisory Committee, the City and Guilds of London Institute, and by means of demonstrations and films. We are proud, too, that the Association has provided a number of instructors in dental technology at various technical colleges. Our members continue successfully to undertake many specialized branches of the dental craftsman's art which are outside the scope of the private laboratory, and this has been greatly appreciated at Table Demonstrations organized by the Association.

Now we have, in the pages of this excellent publication, an opportunity to do much more, and it is proposed not only to use it as an expanded form of our Bulletin, reporting all the activities of the Association, but to report on new equipment, and to publish articles and illustrations concerning new techniques.

A final word to all our members. This is *your* voice and *you* can ensure its complete success. Read it, contribute to it, and criticize it; your news and views *should* be placed before the profession, and in this way your opinions can and will carry weight in all our affairs.

ANNUAL GENERAL MEETING

ABRIDGED REPORT

THE Annual General Meeting was held at the Holborn Restaurant, London, W.C.1, on Saturday, Feb. 10, 1951, at 10.30 a.m., under the Chairmanship of Mr. E. G. Emmett. The Chairman presented the following items in his report:—

Dental Technicians' Bill.—The Bill is now in its final form and copies may be obtained from the Association by any members desiring them. It is hoped that the Minister of Health will receive a deputation to present the Bill at an early date.

Fair List of Laboratories.—The final proofs of the "Fair List" are now in the printers' hands and the Foreword is under discussion with the trade unions. The list will be circulated to all executive councils, local dental committees, and trade union branches, and its publication will be announced in the dental journals.

Wage Application.—This matter is under discussion by the National Joint Council for the Craft of Dental Technicians, but the employers do not feel that under present conditions any increase in wages can be offered.

Grade III.—This matter is still before the National Joint Council, but the view taken by the Association is that there will always be some semi-skilled men in the craft who cannot qualify for a higher grade and therefore Grade III should be retained.

Reduction in Working Hours.—The unions' application for a reduction in working hours to 42 per week on a date to be agreed in 1951 and to 40 per week on a date to be agreed in 1952 is still before the National Joint Council, but the employers are of opinion that there is at present no case for a reduction in working hours.

Apprenticeship Indenture.—After protracted discussions with the N.J.C., modifications were introduced to meet the Association's objection to the clause in the indenture making it obligatory for the employer to teach the apprentice the swaging of metals, and although these did not completely meet the Association's requirements it was decided to finalize the matter by accepting the amended form of wording.

Employers will bear in mind their statutory obligations regarding re-instatement in civil employment of men after demobilization. Members were now recommended to use this official apprenticeship form and register their apprentices with the National Joint Council.

Education Advisory Committee.—Criticisms were made at the last meeting of the National Joint Council on the Constitution and functions of the Education Advisory Committee, and it was agreed: (*a*) that the Committee be empowered to advise local and other authorities without reporting to the N.J.C. so long as this involves no question of N.J.C. policy; (*b*) to review the position, including the appointment of the Committee, at the next meeting of the N.J.C.; (*c*) to make representations to the Ministry of Labour to terminate the training scheme; (*d*) to recommend that greater care be taken by the examiners in formulating their questions so that they were within the reasonable scope of the students, without lowering the standard.

Ratio of Apprentices.—On Feb. 21, 1949, the National Joint Council for the Craft of Dental Technicians passed the following resolution, viz.:—

> "That the ratio of apprentices be one apprentice to each two technicians or part thereof, subject to the right of the employer to engage during the last two years of an indenture a further apprentice."

When that resolution was passed it was realized that there possibly existed cases where the number of apprentices then engaged was greater than the proposed ratio. The resolution of the N.J.C. did not affect such cases, save that no new apprentice should be engaged until the prescribed ratio was complied with.

To avoid misunderstanding, the following table gives examples of how the ratio operates.

No. of Technicians	*No. of Apprentices not having completed Three Years' Apprenticeship*	*No. of Apprentices in the Fourth and Fifth Years of Apprenticeship*
1	1	1
2	1	1
3	2	2
4	2	2
5	3	3
6	3	3

It will be observed that during the last two years of an indenture a further apprentice can be engaged, so that if, say, there are three technicians, there can be two apprentices in the first three years of apprenticeship and two apprentices in the last two years of apprenticeship.

Chrome Cobalt Alloys.—We are endeavouring, with the assistance of our legal adviser, to arrive at a satisfactory agreement in connexion with the new chrome cobalt alloys and members are, therefore, advised to consult the Association if they are contemplating entering into an agreement for these materials.

A list of prices for Croform and Acrylic combination dentures has been compiled and it is hoped that this will form a basis for the Ministry's fees to the practitioner.

Election of Committee.—Nine nominations had been received and the following members were elected by ballot to serve on the Committee for the ensuing year: Mr. C. M. Booth, Mr. G. Cross, Mr. E. G. Emmett, Mr. A. J. Grant, Mr. F. E. Martin, Mr. H. J. Potter.

Resolutions.—

Proposal: It was proposed by Mr. C. M. Booth that the DENTAL PRACTITIONER should be adopted as the official journal of the Dental Laboratories Section. This proposal was well received, and after lively discussion was carried with acclamation.

A proposal of Mr. Chambers, in connexion with advertising, was carried.

Proposal: A resolution sponsored by the East of Scotland Branch urging further consideration of the Dental Technicians' Bill was tabled. The resolution was debated at considerable length and was defeated.

This concluded the business and 75 members lunched together in the Restaurant.

WEEK-END CONFERENCE

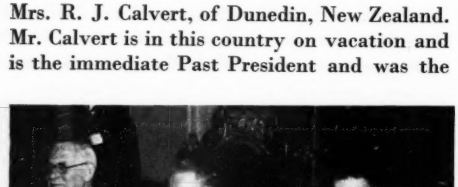
SOCIAL

THE evening of Friday, Feb. 9, saw members assembling at the Holborn Restaurant for the first meeting in their week-end of activities, in the form of a reception held by the Chairman and Mrs. E. G. Emmett in the Ballroom. This enabled the members once more to meet their fellows from various parts of the country in friendly conversation, to make the acquaintance of those members who until then had just been a name, and to renew friendships with comrades of Service days; and it was interesting to note the respect the ex-R.A.F. men have for ex.-W/O. W. L. Shears. The excellent manner in which members throughout the country supported this reception was evident by the announcing of members from Hull, Hastings, Birmingham, Preston, York, Nelson, Manchester, and Liverpool.

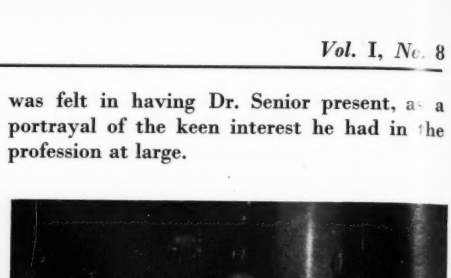
Mr. and Mrs. E. G. Emmett welcome Mr. and Mrs. F. E. Martin.

The reception was followed by the Annual Dinner and Dance, the Dinner being held in the Venetian Suite and 157 members and friends were present, among whom were the Association's guests: Dr. W. G. Senior, of the Ministry of Health; Mr. H. D. Barry, of the British Dental Association; Mr. E. A. Dudley; Mr. S. G. Davis, the Section's Legal Adviser; Miss D. Sawers, the Assistant Secretary; and Mr. and

Mrs. R. J. Calvert, of Dunedin, New Zealand. Mr. Calvert is in this country on vacation and is the immediate Past President and was the



Dr. W. G. Senior, O.B.E., F.D.S., the principal guest, seen in happy mood with the Chairman and his wife.



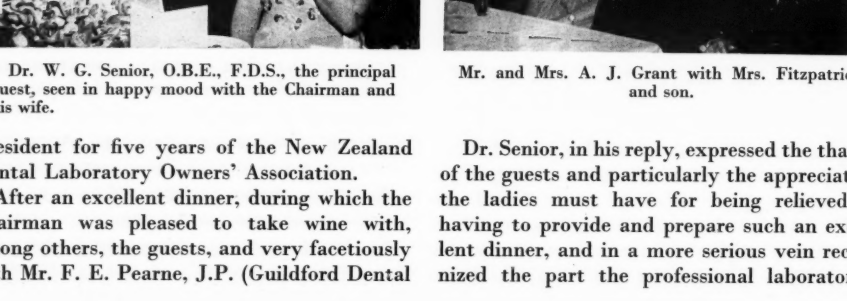
Mr. and Mrs. A. J. Grant with Mrs. Fitzpatrick and son.

President for five years of the New Zealand Dental Laboratory Owners' Association.

After an excellent dinner, during which the Chairman was pleased to take wine with, among others, the guests, and very facetiously with Mr. F. E. Pearne, J.P. (Guildford Dental Laboratory), on his being appointed to the Bench at Guildford, Mr. C. M. Booth then proposed the toast of "The Guests". He welcomed the presence of so many representatives of the other parts of the profession as proof of the concord that exists throughout it, and spoke of the particular pleasure that was felt in having Dr. Senior present, as a portrayal of the keen interest he had in the profession at large.

Dr. Senior, in his reply, expressed the thanks of the guests and particularly the appreciation the ladies must have for being relieved of having to provide and prepare such an excellent dinner, and in a more serious vein recognized the part the professional laboratories had played and were continuing to play in the National Health Service and how it was very much appreciated.

The toast of the Chairman was ably given by Mr. A. J. Grant, of Hove, who having worked with him for so many years on behalf of the Association knew just how wedded he



The assembled gathering.

is to it and how no stone is left unturned if it will be of ultimate benefit to the members and the craft of dental prosthetics, and how he also finds time to strive for the education of the future generation of dental technicians. The members received this toast with acclamation.

Mr. Emmett replied by saying that he was delighted and privileged to preside over such a gathering and that it was extremely gratifying to members of S.I.M.A. to share the happy occasion with a representation of all spheres of the dental profession; that it was more than a happy thought to meet in an atmosphere very unlike that of the National Joint Council chamber; and that our invitation to them to join us was some evidence of our desire to get together with them in every possible way; that as professional laboratories we wished to fit into a National Health Service which could be the envy of every country in the world; and that it was our aim that the public whom we are privileged to serve, through the practitioner, had the benefit of the highest standards of material and craftsmanship compatible with an economical schedule of charges to all concerned.

Concluding, the Chairman paid particular tribute to his partner, Mr. Coode, and referred to the genial and generous way in which his friend Alec Grant proposed the toast, thanked those present for the spirited way in which they had received it, and finally the members for the encouragement and help he had received from them during his year of office. He expressed the hope that all present would thoroughly enjoy themselves during the remainder of the evening and wished the Dental Laboratories Section of S.I.M.A. every success, hoping that it would continue to serve.

Dancing followed until 11.30 p.m. with an interval for entertainment in the persons of Miss Irene Palmer (soprano), who sang delightfully, accompanied by Mr. Stanley Kilburn at the piano, and Mr. Norman Major, who humorously and mystically intrigued his audience. A large number of prizes, which had been given by various members, were distributed during the dancing, and so with the singing of "Auld Lang Syne" came to an end a most successful and pleasant gathering.

TABLE DEMONSTRATIONS

Saturday afternoon saw a large number of members and their guests arriving for the last of the week-end meetings which was to be held in the Council Chamber. On the occasion of these demonstrations, admission for the profession was by invitation and it was gratifying to see the large number of practitioners who had accepted invitations to attend.

The Chairman, in opening the meeting, welcomed all the visitors and pointed out that the

Mr. G. Paul demonstrating "Bridge Connexions".

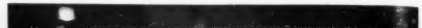
demonstrators were all members of S.I.M.A. and that they had voluntarily given their services and had spent much time in preparing their subjects that others might profit by attending.

In all, ten tables were taken by members—some from as far away as Glasgow, Liverpool, and Luton, whilst London and Croydon were responsible for the remainder. The procedure was on the lines usually followed at these demonstrations and the ten tables were spaced about the large Chamber and the audience in orderly groups moved in turn to each table for a twelve-minute talk by the demonstrators, and after visiting each table were able to return to any table for further information and questions.

The Council Chamber has been the scene of many exhibitions, but it is difficult to imagine

it as the scene for a more enthusiastic and intensely interested audience, an audience who were viewing specimens of master-craftsmen's labour, and it would be unfair to these members who had spent so much time in the research and preparation of their lectures to

Mr. W. G. Ditchburn demonstrating "Plaster Bite-rim Technique".



Mr. H. J. Potter demonstrating "A Method of Finishing Acrylic Resins".

single out any one table for special mention, but exception must be made for congratulations to Mr. J. S. Fountain, of Glasgow, for

Mr. J. S. Fountain, assisted by Mr. Reid, explaining their exhibits.

Mr. D. M. Beauchamp demonstrating one of his "Odds and Ends".

the extensive collection he brought along as representative of his Branch members' work, which consisted, among other specimens, of appliances to rectify oral deformities, hand and arm splints in acrylic, and some remarkable multiple castings of not only plates but insects and flowers. The fortitude of the demonstrators in giving ten talks of twelve minutes' duration is something to be admired, and the last talk was given with the same enthusiasm as the first.

At the end of the session, Mr. Emmett thanked the demonstrators on behalf of the Dental Laboratories Section of S.I.M.A., and of the invited guests, and this brought to a conclusion the Week-end Conference, which it was unanimously agreed had been a complete success and had enabled members from all parts of the country to meet in amity for three different types of functions and thereby cater for all tastes.

It is proposed in future issues to publish individual accounts of the tables.

NEWS FROM THE BRANCHES

North-Western Branch.—The following have been elected officers of the Branch for the ensuing year:—

Chairman: Mr. W. G. Kenyon, 900 Stockport Road, Longsight, Manchester 12.

Vice-Chairman: Mr. C. S. Staton, 22 London Road, Preston.

Secretary: Mr. W. Mayall, 15 King Street, Accrington.

Mr. W. G. Kenyon is the Branch representative on the Manchester and District Joint Training Committee for Dental Technicians.

Mr. C. S. Staton has been appointed instructor for the City and Guilds Course at the Harris Institute, Preston, under the Lancashire County Council.

Birmingham Branch.—The Branch reports a steady growth in membership. A Demonstration was arranged for Feb. 28 on the Technique employed in the use of Chrome Cobalt Alloys, and it is hoped to arrange a visit to the Worsley Maxillo-facial Centre in the near future.

Liverpool Branch.—Mr. W. G. Ditchburn has been elected Chairman, and Mr. E. Flitcroft Secretary of the Branch for the new twelve months as from Feb. 1, 1951.

London Regional Branch.—

SUMMER ONE-DAY CONFERENCE.

The Branch are organizing a "Summer One-day Meeting" in connexion with the Festival of Britain, to be held at the Holborn Restaurant on Saturday, July 7.

The meeting is open to all members of the Dental Laboratories Section throughout the country, and further details will be announced later, but members are asked to reserve this date so that they may attend, and it is proposed to conclude the day's deliberations with an informal Dinner or "Stag".

The meeting is being advertised in all foreign laboratory journals, inviting any laboratory owners visiting England to attend.

The next meeting of the London Regional Branch, to be held on April 19, is to be the Branch Annual General Meeting and the attendance of all members is urged. It is proposed in future to hold the Branch Annual General Meeting in January, the first quarterly meeting of the year.

OBITUARY

All members will be most grieved and shocked to learn of the sudden death of Andrew J. Fitzpatrick on March 4.

The older generation of laboratory owners mourn a sincere and always happy colleague.

The younger members will feel his loss tremendously, as he was always ready with advice and guidance when prevailed upon.

We will recall that, handicapped as he was from the loss of a limb in World War I, he superintended a successful laboratory for more than twenty-five years. At the end of the last war he was Instructor in Dental Mechanics at the Borough Polytechnic for about three years, whilst still running his laboratory. There is no doubt that he has always shown a keen interest in the improvement of the standard of the technician and dental technology. He has been a member of the Dental Section of the Institute of British Surgical Technicians since its inauguration, being a Fellow and its Chairman for the past year, and under his guidance considerable advancement has been made.

He was the very attentive host to the official guests at our recent Annual Dinner.

His funeral took place on Friday, March 9, at Surbiton Cemetery, when a number of members were present and wreaths were sent from S.I.M.A. and I.B.S.T.

Our sympathy is extended to his wife and son. We shall indeed miss an old friend and servant.

North-Eastern Branch. — On Wednesday evening, Feb. 21, the West Riding Area of the North-Eastern Branch met at the Griffin Hotel, Leeds, to see a film on Gold Casting, presented by Mr. A. M. Richardson, representing Messrs. Baker Platinum Ltd.

A very instructive and enjoyable evening was spent by the members and their guests.

Mr. W. Pearson, of York, regional representative, proposed a vote of thanks to Mr. Richardson and his firm.

Proposed South-Western Counties Branch.—Newton Abbot, at the Commercial Hotel, was the venue for a meeting of laboratory owners on Saturday, March 3, convened by our Chairman, instigated by Mr. C. A. Bricknell, and supported by Mr. Mather.

Mr. Bricknell, in opening the meeting, introduced our Chairman, who spoke of the increasing need for *bona fide* laboratories to get together, and said that a wider exchange of ideas and views must be for the good of the profession generally. He said that the meeting had been called with this in mind, and hoped that the laboratories of the South-Western Counties would form a Branch in order that their views, through their representative, might be contributed at the main Committee.

Mr. Mather made a number of suggestions and his guidance was invaluable.

After an inaugural committee had been formed, Mr. Bricknell thanked both Mr. E. G. Emmett and Mr. R. Mather for travelling so far in an effort to assist in launching a Branch in the South-West of England.

Croydon Branch.—The fourth Annual Film Show arranged by the Croydon Branch of S.I.M.A. will take place in Norbury Library Hall, at 7.30 p.m. on Friday, April 27, 1951.

Mr. Phillimore will explain "The Use of Cap Splints", illustrated by films which were produced at the East Grinstead Maxillo-facial Unit by Mr. P. Rae Shepherd, L.D.S. R.C.S.

Mr. Aspin will cover "Tooth Surveying" and "Vacuum Investing", films produced by Mr. J. N. Anderson, L.D.S., B.D.S., at Birmingham University, and shown by permission of Professor John Osborne.

ITEMS OF INTEREST

It would be appreciated if any member having a vacancy for a partly trained apprentice would contact the Association.

Members will be sorry to hear of the illness of Mr. A. D. Stimpson, of Stanmore, and all will join in wishing him a speedy return to good health.

S.I.M.A. (DENTAL LABORATORIES SECTION) DIARY

North-Western Branch (*Secretary*: Mr. W. Mayall).—April 14, 2 p.m., at the Empire Hotel, Preston.

North-Eastern Branch (*Secretary*: Mr. F. Pearson).—April 14, at the White Swan Hotel, York.

London Regional Branch (*Secretary*: Mr. R. Foale, F.I.B.S.T.). April 19, at 6 Holborn Viaduct, E.C.1, A.G.M. (Chairman's Report, Balance Sheet, Election of Officers).

July 7, 2.30 p.m., at the Holborn Restaurant, "Laboratory Costings", by Mr. R. Mather, F.I.B.S.T.

Croydon Branch (*Secretary*: Mr. H. J. Nowers, F.I.B.S.T.). April 27, 7.30 p.m., at Norbury Library Hall, Fourth Annual Film Show.

South Wales and Monmouthshire Branch (*Secretary*: Mr. Raymond Mather, F.I.B.S.T.).—Nil.

Liverpool and District Branch (*Secretary*: Mr. E. Flitcroft).—Nil.

Birmingham and District Branch (*Secretary*: Mr. G. C. Taylor, F.I.B.S.T.).—Nil.

East of Scotland Branch (*Secretary*: Mr. W. Gordon Seaton).—Nil.

West of Scotland Branch (*Secretary*: Mr. J. S. Fountain, F.I.B.S.T.).—Nil.

> "A work ill done must be done twice."—OLD PROVERB.